SLOVENSKI STANDARD
oSIST prEN 13885:2019

01-december-2019

Stroji za predelavo hrane - Stroji za sponkanje - Varnostne in higienske zahteve

Food processing machinery - Clipping machines - Safety and hygiene requirements

Nahrungsmittelmaschinen - Clipmaschinen - Sicherheits- und Hygieneanforderungen

Machines pour les produits alimentaires - Machines à attacher - Prescriptions relatives à la sécurité et à l'hygiène

Ta slovenski standard je istoveten z: **prEN 13885**

ICS:

67.260	Tovarne in oprema za živilsko industrijo	Plants and equipment for the food industry

oSIST prEN 13885:2019 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT prEN 13885

October 2019

ICS 67.260

Will supersede EN 13885:2005+A1:2010

English Version

Food processing machinery - Clipping machines - Safety and hygiene requirements

Machines pour les produits alimentaires - Machines à attacher - Prescriptions relatives à la sécurité et à l'hygiène

Nahrungsmittelmaschinen - Clipmaschinen - Sicherheits- und Hygieneanforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 153.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. prEN 13885:2019 E

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European foreword

This document (prEN 13885:2019) has been prepared by Technical Committee CEN/TC 153 “Machinery intended for use with foodstuffs and feed”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13885:2005+A1:2010.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2006/42/EC.

For relationship with EU Directive 2006/42/EC, see informative Annex ZA, which is an integral part of this document.

Introduction

This document is a type-C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

For machines that have been designed and built according to the requirements of this type-C-standard: when requirements of this type-C standard are different from those which are stated in type-A or type-B-standards, the requirements of this type-C-standard take precedence over the requirements of the other standards.

1 Scope

This document specifies safety and hygiene requirements of clipping machines (hereafter referred to as machine) for closing of casings filled with foodstuffs (hereafter referred to as product) by using a clip, and which are intended to be used in butcheries, meat processing factories, main kitchens and other food processing factories.

Clipping machines are used to close tubes with a single clip (one side) or a double clip (end locking and start locking).

The machines are equipped with closing tools (punch/die), which create the closure by deforming the locking element (clip).

This document deals with all significant hazards, hazardous situations and hazardous events relevant to machinery when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This document covers the following types of machines:

— semi-automatic machine (see Figure 1 and Figure 2);

— automatic machine (see Figure 3).

This document does not cover any machines whose closing procedure is only performed manually.

This document is not applicable to machinery manufactured before the date of publication of this document by CEN.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 614-1:2006+A1:2009, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

EN 619:2002+A1:2010, *Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of unit loads*

EN 1005-1:2001+A1:2008, *Safety of machinery — Human physical performance — Part 1: Terms and definitions*

EN 1005-2:2003+A1:2008, *Safety of machinery — Human physical performance — Part 2: Manual handling of machinery and component parts of machinery*

EN 1005-3:2002+A1:2008, *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machinery operation*

EN 1672-2:2005+A1:2009, *Food processing machinery — Basic concepts — Part 2: Hygiene requirements*

EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 61496-1:2013, *Safety of machinery — Electro-sensitive protective equipment — Part 1: General requirements and tests (IEC 61496-1:2012)*

EN ISO 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane (ISO 3744:2010)*

EN ISO 4414:2010, *Pneumatic fluid power — General rules and safety requirements for systems and their components (ISO 4414:2010)*

EN ISO 4871:2009, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 7010:2012, *Graphical symbols — Safety colours and safety signs — Registered safety signs (ISO 7010:2011)*

EN ISO 11201:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)*

EN ISO 11688-1:2009, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2015)*

EN ISO 13851:2019, *Safety of machinery — Two-hand control devices — Principles for design and selection (ISO 13851:2019)*

EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

EN ISO 14119:2013, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection (ISO 14119:2013)*

EN ISO 14120:2015, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards (ISO 14120:2015)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
clip
metal or plastic element for closing the gathering

3.2
clip guide
device for guiding the clip through the clip feed channel to the closure tool

3.3
casing
element (e.g. skins, tubular films, foil bags) for receiving the product

3.4
casing brake
device for retaining and braking of the casing on the filling tube

3.5
thread dispenser
loop dispenser
device which adds a means for hanging up to the closing zone

3.6
labelling device
device which feeds a label tape to the closing zone

3.7
magazine
receptacle to store the clip

3.8
gathering
radial folding of the casing

3.9
loop
fixed eye for hanging

3.10
removal
device for gathering the case and creating a product-free area for setting the clip

3.11
spread removal
device for gathering the case and creating a larger axial product-free area by axial movement for setting the clip

3.12
closure tool
combination of punches and dies

3.13
dividing knife
powered knife for automatically cutting through the case

3.14
semi-automatic machine
machine on which every closure operation is triggered by the action of an operator

3.15
automatic machine
machine on which each further closure operation is triggered automatically after it has been set up

3.16
sleeve
casing slipped axially onto the filling tube

3.17
closing zone
space in which the closure tool, removal and, if applicable, the dividing knife are located

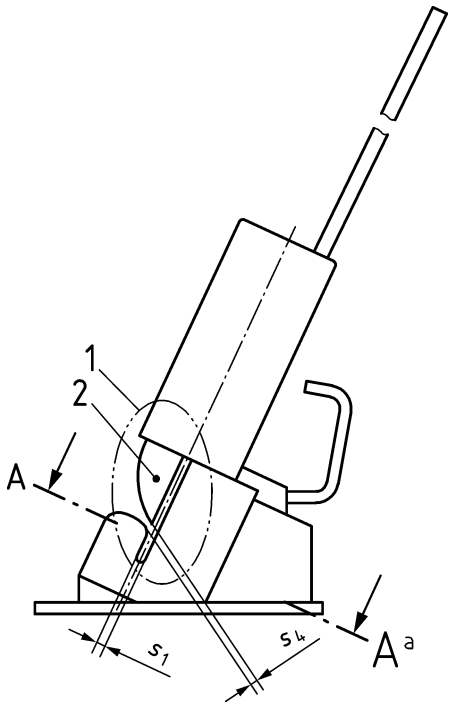
3.18
slewing
movement of the corresponding machine parts into working position

4 List of significant hazards

This clause contains all the significant hazards, hazardous situations and events, identified by risk assessment as significant for this type of machinery and which require measures to eliminate or reduce the risk associated with the identified hazards (see Table 1, Figure 1, Figure 2 and Figure 3).

Table 1 — List of significant hazards

Location or cause	Hazards, hazardous situations and hazardous events	Clause/subclause in this European Standard
General	Mechanical hazards	5.1
Closing zone	Crushing, cutting, severing or shearing	5.2.1
Product infeed	Cutting, severing, drawing-in or trapping	5.2.2
Product outfeed	Cutting, severing, drawing-in or trapping	5.2.3
Options	Cutting, severing, drawing-in or trapping	5.2.4
Drive mechanism	Crushing, drawing-in or trapping	5.2.5
Electricity supply	Electric shock from direct or indirect contact with live components; external influences on electrical equipment (e.g. cleaning with water)	5.3
Pneumatic equipment	Risks of uncontrolled movements; Biological and microbiological risks by lubricants	5.4
Design of machinery	Hazards generated by loss of stability	5.5
Design of machinery	Hazards generated by noise which could result in hearing, damage, tinnitus, stress and accidents due to interference with speech communication and interference with the perception of acoustic signals	5.6; Annex A
Design of machinery to facilitate its handling	Hazards generated by neglecting ergonomic principles e.g. unhealthy body posture or excessive physical effort, inadequate consideration of human hand/arm or foot/leg anatomy by design of machines or no respect of the working area	5.7
Cleaning procedure	Hazards generated by neglecting hygienic design principles which could result in e.g. contamination by microbial growth or foreign materials	5.8; Annex B
Operator intervention	Hazards due to inadequate operating instructions	7.2



Key

1	closing zone	s_1	distance between the parts of the clip guide
2	fixed clip guide	s_4	width of the feed opening of the clip guide channel
a	cut A/A see Figure 4 and Figure 5		

Figure 1 — Semi-automatic machine without removal